

REMARKS

Favorable consideration and allowance of the claims of the present application are respectfully requested.

Status of the Claims

Claims 1- 11 are pending in the application.

Claims 1, 5 and 9-10 are currently amended. Support for the amendments to Claims 1 and 10 is found in paragraph [0058] and throughout the specification. Support for Claim 9 is found in paragraph [0059]. No new matter has been added.

Claim Objections

Initially, Applicant acknowledges that Claims 5-8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all elements of the base claim and any intervening claims. Accordingly, Applicant has rewritten Claim 5 in independent form including all elements of the base claims of Claim 1, 3 and 4. Therefore, it is respectfully submitted that Claims 5-8 are in condition for allowance.

Further, Claim 9 is objected under 37 C.F.R. §1.75 for informality resulting from a missing word “a” on line 2 of Claim 9. Accordingly, Claim 9 has been amended and now appropriately includes the word “a”. However, the Examiner’s suggestion that the term “said predetermined node” be changed to “a predetermined node” is not taken, since that term already appears in Claim 5 (see line 3) from which amended Claim 9 now solely depends. Applicant respectfully requests the Examiner remove the objections in view of the amendment.

Claim Rejections – 35 U.S.C. § 102(b)

Claims 1-2 and 9 are rejected under 35 U.S.C. §102(b) as being anticipated by Hardjono (WO, 00/33509, hereinafter *Hardjono*). It is respectfully submitted that *Hardjono* fails to teach

all elements of Claims 1-2 and 9 as currently amended. More specifically, Applicant believes *Hardjono* fails to teach at least “controlling sending multicast message from the multicast source in accordance with said multicast source authentication information”, as recited in step (c) of amended Claim 1, which is also incorporated in Claims 2 and 9 by their respective dependencies on Claim 1.

Regarding amended Claim 1, as mentioned in the background section of the present application, in the prior art, “if a network terminal sends a great deal of multicast messages to the multicast network maliciously with a valid unicast IP address as the multicast source address, a large number of nonsensical multicast messages will be transmitted over the multicast network, and thereby occupy the network resources to a great extent, causing interference to normal operation of the multicast system, and even paralysis of the system” (see paragraph [0004] of the Specification).

“In order to protect the multicast system against attacks from malicious multicast messages, multicast sources shall be controlled strictly, so that only authorized multicast sources can send multicast messages to the multicast network” (see paragraph [0005] of the specification; see also paragraphs [0076]-[0077] of the specification).

Claim 1 of the present application provides a multicast source control method. In the method of Claim 1, multicast source authentication information is created, a management platform of the multicast source authentication information dynamically updates said multicast source authentication information in accordance with restriction on multicast source, and sending multicast message from the multicast source is controlled in accordance with said multicast source authentication information.

By the method of Claim 1, only a multicast message sent from an authenticated multicast source can be allowed to enter into the multicast network to be multicasted.

On the contrary, as mentioned in the background of the invention of *Hardjono*, “there are instances, however, when unauthorized users can silently monitor messages transmitted between authorized members of a multicast” (see page 1, lines 24-25 of *Hardjono*). “Authorized members of the multicast therefore continue to transmit data between themselves without knowing that their messages are being received by the unauthorized user” (see page 1, lines 28-30 of *Hardjono*).

Therefore, *Hardjono* proposed an apparatus and method for limiting unauthorized access to a multicast (see page 2, lines 9-10 of *Hardjono*). That is, *Hardjono* aims to provide an apparatus and method for limiting an unauthorized multicast destination from receiving the multicast message, but not as indicated in the present application, for limiting an unauthorized multicast source from sending a multicast message without restriction.

To achieve this purpose, in the method of *Hardjono*, “the initiator of the multicast stores a data structure containing the authorized members of the multicast and their identities” (see page 6, lines 5-11 of *Hardjono*), “the data structure is updated when a new member is added to the multicast group or an older member logs off of the multicast” (see page 6, lines 9-10 of *Hardjono*), “once the multicast is initiated a query message is sent to each authorized member of the multicast group” (see page 6, lines 12-14 of *Hardjono*). “In preferred embodiments, the query message is received by the network device ... and then broadcast to all nodes of the subnet” (see page 6, lines 17-18 of *Hardjono*). “After a specified condition is met, it then is determined at step 206 if all reply messages have been collected from all participating subnet members in the multicast” (see page 7, lines 18-19 of *Hardjono*). “If all of the messages were

determined to be collected at step 206 ... the reply messages are transmitted to the member that generated the query message” (see page 8, lines 3-6 of *Hardjono*). “The reply messages are processed by the receiving authorized member(s) to determine if the network users that generated the respective reply messages are authorized members of the multicast” (see page 8, lines 8-11 of *Hardjono*).

It can be seen that the above method of *Hardjono* aims to limit the users (i.e. the members of the multicast) from receiving a multicast message. In the method of *Hardjono*, the “data structure containing the authorized members of the multicast and their identities” is also multicast destination authentication information, but not multicast source authentication information as indicated in the method of Claim 1 of the application. Furthermore, the “query message” sent by the initiator is used to authenticate the multicast destination, but not a real-meaning “multicast message” which carries data such as audio or video to be multicasted. Thus *Hardjono* does not disclose a multicast source control method of Claim 1, nor does *Hardjono* disclose any technical feature of Claim 1.

In summary, *Hardjono* appears to teach a step of controlling receiving multicast message from the multicast source in accordance with said multicast source authentication information, rather than a step of controlling sending multicast message from the multicast source in accordance with said multicast source authentication information, as recited in amended Claim 1. Therefore, *Hardjono* fails to teach amended Claim 1 and amended Claim 1 is believed to be in condition for allowance.

Hardjono also fails to teach Claims 2 and 9 for the same reasons stated above in connection with Claim 1 because of their respective dependencies on Claim 1.

For the aforementioned reasons, Applicant respectfully requests that the rejection of Claims 1-2 and 9 under 35 U.S.C. §102(b) be withdrawn.

Claim Rejections – 35 U.S.C. § 103

Claims 3-4 are rejected under 35 U.S.C. §103(a) as being unpatentable over *Hardjono* in view of *Novaes* (U.S. Patent Application 2002/0165977, hereinafter *Novaes*).

Claims 3-4 directly or indirectly depend from Claim 1. It is respectfully submitted that Claims 3-4 are not unpatentable over *Hardjono* in view of *Novaes* for the same reasons stated above in connection with Claim 1, and because *Novaes* does not make up for what *Hardjono* lacks.

In addition, Claim 3 recites the element of “...said multicast source authentication information table contains a corresponding relationship between multicast source address and multicast address...”. This element indicates that the multicast source authentication information table recited therein contains not only a multicast source address but a corresponding multicast address (multicast destination address).

On the contrary, both the data structure disclosed in *Hardjono* and the group ID disclosed in *Novaes* contain only the authorized members of the multicast or the multicast address (multicast destination address).

Therefore, the aforementioned element of “said multicast source authentication information table contains a corresponding relationship between multicast source address and multicast address” of Claim 3 is not taught in either *Hardjono* or *Novaes*.

With regard to Claim 4, which is a dependent claim of Claim 3, it is believed for at least the same reasons stated above in connection with Claim 3, *Hardjono* in view *Novaes* fails to teach Claim 4.

Claims 10-11 are rejected under 35 U.S.C. §103(a) as being unpatentable over *Hardjono* in view of Song et al. (U.S. Patent Application Publication No.: 2003/0211843, hereinafter *Song*) and further in view of Takahashi (U.S. Patent No.: 6,064,989, hereinafter *Takahashi*).

Regarding Claim 10, the Examiner alleges that *Hardjono* teaches various elements of amended Claim 10, including a same element of controlling “sending the multicast message from the multicast source in accordance with the response from the multicast source authentication server” as recited in step (c) of amended Claim 1. Therefore, it is believed that for the same reasons stated above in connection with Claim 1, *Hardjono* fails to teach the aforementioned element of Claim 10. Likewise, *Hardjono* fails to teach Claim 11, which is a dependent claim of Claim 10.

Furthermore, although *Takahashi* discloses a method of determining whether to proceed with a multicast forwarding according to a registration information control mechanism (the multicast server receives a request for multicast connection registration; the Table 28 is searched to determine if the multicast connection registration exist), the registration information control mechanism of *Takahashi* is used for the users using the multicast service, i.e. the receivers of the multicast (see e.g. column 12, lines 23-26 of *Takahashi*, which can also be found through columns 13-15 of *Takahashi*), but not the multicast source as recited in claim 10. That is, the purpose of the above technical feature of *Takahashi* is different from the corresponding technical feature of claim 10. As such, there is no motivation for a person skilled in the art to combine the feature of *Takahashi* with *Hardjono* to arrive at Claims 10-11.

Therefore, for the above reasons Applicant respectfully requests the rejection of Claims 3-4 and 10-11 under 35 U.S.C. §103 be withdrawn.

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Accordingly, it is respectfully requested that this application be allowed and a Notice of Allowance be issued.

If the Examiner believes that a telephone conference with the Applicant's attorneys would be advantageous to the disposition of this case, the Examiner is requested to telephone the undersigned, Applicant's attorney, at the following telephone number: (516) 742-4343.

Respectfully submitted,



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